

WHAT IS CLAIMED IS:

1. A method of managing network traffic, comprising,
receiving a request for network resources via a signaling
protocol, the request including information identifying an

5 application;

evaluating the information identifying the application
against policy information; and

determining access to network resources based on a result
of the evaluation.

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2. The method of claim 1 wherein the information
identifying the application includes an application
identifier.

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3. The method of claim 1 wherein the signaling protocol
comprises RSVP.

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4. The method of claim 1 wherein determining access to
network resources based on a result of the evaluation includes
admitting or denying the request.

5. The method of claim 1 wherein determining access to
network resources based on a result of the evaluation includes
returning marking information in response to the request.

6. The method of claim 5 wherein the marking information represents a relative priority level.

5 7. The method of claim 5 wherein the marking information includes a differentiated services codepoint.

8. The method of claim 5 wherein returning marking information includes providing a DCLASS object.

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9. The method of claim 5 wherein the DCLASS object includes a differentiated services codepoint.

10. The method of claim 1 wherein the request further
15 includes quantitative information.

11. A computer-readable medium having computer-executable instructions for performing the method of claim 1.

20 12. A method of requesting network resources, comprising:

constructing a request message in accordance with a signaling protocol, the request message including information

identifying a type thereof as qualitative, and further including qualitative information; and

5 sending the request message to request network resources, the request message passing through at least one network device that evaluates the qualitative information in the request message to determine access to network resources.

13. The method of claim 12 further comprising, receiving a return message.

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14. The method of claim 12 wherein the signaling protocol comprises RSVP.

15 15. The method of claim 12 wherein the qualitative information has an associated hierarchy.

16. The method of claim 12 wherein determining access to network resources based on a result of the evaluation includes admitting or denying the request.

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17. The method of claim 12 further comprising, receiving a return message indicating that access to the requested resources is denied.

18. The method of claim 12 further comprising,
receiving a return message including marking information.

19. The method of claim 18 wherein the marking
5 information represents a relative priority level.

20. The method of claim 18 wherein the marking
information includes a differentiated services codepoint.

10 21. The method of claim 18 wherein returning marking
information includes providing a DCLASS object.

22. The method of claim 21 wherein the DCLASS object
includes a differentiated services codepoint.

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23. The method of claim 18 further comprising,
attaching the marking information to subsequent flow.

24. The method of claim 12 wherein the request message
20 is sent towards a receiver.

25. A computer-readable medium having computer-
executable instructions for performing the method of Claim 12.

26. A method of managing network traffic, comprising:
receiving a request for network resources via a signaling
protocol, the request including qualitative information;
evaluating the qualitative information in the request
5 against policy information; and
returning information based on a result of the evaluation
including information that specifies to an upstream sender how
to mark packets for classification thereof.

10 27. The method of claim 26 wherein the information in
the request further includes quantitative information.

28. The method of claim 26 wherein the qualitative
information in the request includes an application identifier.
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29. The method of claim 26 wherein the request comprises
an RSVP PATH message.

30. A computer-readable medium having computer-
20 executable instructions for performing the method of Claim 20.

31. In a computer network, a system for providing
quality of service via a signaling protocol, comprising:

a sender, the sender providing a message comprising qualitative information therein including information identifying an application;

a receiver, the receiver receiving the message from the sender and providing a return message in response thereto; and

a policy enforcement device, the policy enforcement device evaluating at least one of the messages communicated between the sender and the receiver, and determining access to resources based on the qualitative information.

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32. The system of claim 31 wherein the information identifying the application includes an application identifier.

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33. The system of claim 31 wherein the policy enforcement device includes a router.

34. The system of claim 31 wherein the policy enforcement device includes a switch.

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35. The system of claim 31 wherein the signaling protocol comprises RSVP.

36. The system of claim 31 wherein the policy enforcement device determines access to resources by adding marking information to the return message.

5 37. The method of claim 36 wherein the marking information represents a relative priority level.

38. The system of claim 36 wherein the marking information includes a differentiated services codepoint.

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39. The system of claim 36 wherein the marking information includes a DCLASS object.

40. The computer-readable medium of claim 39 wherein the
15 DCLASS object includes a differentiated services codepoint.

41. A computer-readable medium having a data structure for communicating network quality of service information on a network, comprising, a first field including a message header
20 identifying a message in a signaling protocol, a second field identifying the message as having qualitative information associated therewith, and a third field including at least one set of qualitative parameters.

42. The computer-readable medium of claim 41 wherein the data structure is provided in an RSVP message from a sender.

43. The computer-readable medium of claim 41 wherein the
5 computer-readable medium comprises a data transmission medium.

44. The computer-readable medium of claim 41 wherein one of the parameters in the third field corresponds to information identifying an application.

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45. A computer-readable medium having a data structure for communicating network quality of service information on a network, comprising, a first field identifying the message as having qualitative information associated therewith, and a
15 second field including marking information corresponding to the qualitative information.

46. The computer-readable medium of claim 45 wherein the data structure is provided in an RSVP reservation message.

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47. The computer-readable medium of claim 45 wherein the marking information represents a relative priority level.

48. The computer-readable medium of claim 47 wherein the marking information includes a differentiated services codepoint.

5 49. The computer-readable medium of claim 47 wherein the marking information comprises a DCLASS object.

50. The computer-readable medium of claim 49 wherein the DCLASS object includes a differentiated services codepoint.

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51. The computer-readable medium of claim 44 wherein the computer-readable medium comprises a data transmission medium.